

REMARKS/ARGUMENTS

Claims 1-29 are active in the case. Claims 13-29 stand withdrawn from consideration. Reconsideration is respectfully requested.

Claim Amendments

Claim 1 has been amended whereby the product aqueous dispersion is limited by the incorporation of subject matter therein from page 10, lines 5-7. The limitation states that the silicon dioxide particles of the dispersion that has been brought into contact with the cation-providing compound is such that the surfaces of the particles retain their negative surface charge. Since the amendment does not introduce new matter into the case, entry of the amendment is respectfully requested.

Invention

The present invention is directed to a product aqueous dispersion comprised of a silicon dioxide powder that has a silicon dioxide content of 10 to 60 wt %. The dispersion contains at least one which is at least partially soluble in aqueous solutions in the pH range of 2 to 6. The compound provides polyvalent cations which interact with the anionic surface of the silicon dioxide. The polyvalent cations are stable in the silicate environment as an anionic component of the particle surface of the SiO₂ powder. The quantity of cation-providing compound in relation to the surface of the silicon dioxide is 0.001 to 0.1 mg cation-providing compound per m² of SiO₂ surface. The product dispersion has a zeta potential of ≤ 0 , and the surface of the SiO₂ particles after treatment with the cation-providing compound retains its negative charge.

Claim Rejection, 35 USC 102

Claims 1-12 stand rejected based on 35 USC 102(b) as anticipated by Field, WO 00/20221. This ground of rejection is respectfully traversed.

The WO '221 reference, as stated previously, discloses the preparation of an aqueous silicon dioxide dispersion that is stable in the acid range. The reference on page 3 discloses an aqueous dispersion of cationic silica with the dispersion having a pH ranging from about 2 to about 6. The dispersion is produced by bringing the silicon dioxide particles into contact with aluminum compounds in an aqueous medium as described on pages 11 and 12 of the reference. As stated at page 12 of the reference, the fact of the cationic coating of the silicon dioxide particles with aluminum and the extent to which the silicon dioxide particles are coated with aluminum is provided by measuring the zeta potential of the dispersion of the silica being cationized. As stated on page 10, lines 8-11 of the present specification, the mechanism of stabilization of the silicon dioxide particles taught is that the charge on the particles is completely reversed by the positively charged aluminum species such that the surfaces of the silicon dioxide particles have a positively charged shell. On the other hand, as the present claims now state, the product silicon dioxide particles of the dispersion of the present invention, despite treatment by the cation-providing compound, nevertheless, retain their negative surface charge. Thus, the present invention as claimed is completely opposite to the invention of Field where the surfaces of the silicon dioxide particles have an established positive charge. The Field reference therefore, does not anticipate the present invention as claimed and withdrawal of the rejection is respectfully requested.

Appln. No. 10/644,755
Amendment under 37 CFR 1.114

It is believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Frederick D. Vastine, Ph.D.
Registration No. 27,013

NFO:FDV